**Station 1 : INSTRUCTIONS Determining Lung Capacity**

**Part A Vital Capacity**

1. Obtain a NEW mouth piece. Do not share mouth pieces!
2. Take as deep a breath as possible. Then exhale all the air you can into the spirometer
3. Repeat three times, record data.

**Part B Expiratory Reserve**

1. Exhale normally.
2. Without inhaling as you normally would, put the spirometer in your mouth and exhale all the air still left in your lungs.
3. Repeat three times, record data.

**Part C Tidal Volume**

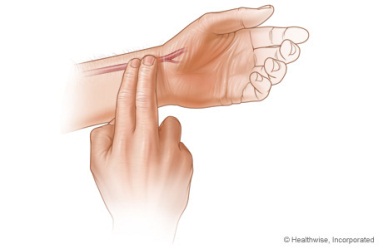
1. Take in a normal breath. Exhale into the spirometer **only** as much air as you would **normally exhale**. DO NOT force your breathing.
2. Repeat three times.

**Station 3: INSTRUCTIONS Breathing Rate and Oxygen Demand Activity**

Each group member should have a role: recorder, exerciser, timer, breath counter, pulse counter

Materials: Stop watch of Cell phone

**Part 1: Measuring Resting Heart Rate & Breathing Rate**

1. Create a data table for data and calculations
2. First measure and record the subject’s resting heart rate or the number of heartbeats per minute while the subject is sitting at rest. This can be done by taking their pulse – locate the artery in his or her wrist and gently press your index finger and one or two other fingers against the artery
   1. 

Use the stopwatch to count the number of pulses in 30 s, multiply by 2 to get the number of heartbeats in 1 min. Record this as the subject’s resting heart rate.

1. Next, measure the subject’s resting breathing rate by counting the number of complete breaths per minute while at rest. Count the number of times the subject’s breaths (one inhalation and one exhalation) in 30 s, multiply by 2 to get the number of breaths in 1 min

**Part 2: Measuring Heart Rate and Breathing Rate after Exercise**

1. Have subject walk briskly in place for 2 min. Then record the number of heartbeats per minute and the number of breaths per minute.
2. Have you subject do jumping jacks for 1 min and record the number of heartbeats per min and the number of breaths per min